



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION  
11805 SW 26 Street, Room 208  
Miami, Florida 33175-2474  
T (786) 315-2590 F (786) 315-2599

[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

## NOTICE OF ACCEPTANCE (NOA)

Thybar Corporation  
913 South Kay Avenue  
Addison, IL 60101

### SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER- Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

### DESCRIPTION: TC-5 Series Steel Roof-Curb for Lennox Rooftop Units

**APPROVAL DOCUMENT:** Drawing No. RC10982.idw, titled "Roof curb by Thybar Corporation", sheets 1 through 5 of 5, prepared by Paul Selman, P.E., dated June 06, 2011, last revision # 3 dated May 15, 2013, signed and sealed by Paul Selman, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and the expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING:** None

**LABELING:** Each roof-curb shall bear a permanent label with the manufacturer's name or logo, Addison, IL; Farmers Branch, TX; Akron, OH; Louisville, KY; or McCarran, NV and the following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA # 11-0715.01 and consists of this page 1, evidence submitted page E-1 as well as approval document mentioned above.

The submitted documentation was reviewed by Helmy A. Makar, P.E., M.S.



*Helmy A. Makar*  
06/06/2013

NOA No. 12-0828.04  
Expiration Date: 09/22/2016  
Approval Date: 06/06/2013

**Thybar Corporation**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 11-0715.01**

**A. DRAWINGS**

1. *Drawing No. RC10982.idw, titled "Roof curb by Thybar Corporation", sheets 1 through 5 of 5, prepared by Paul Selman, P.E., dated July 19, 2011, signed and sealed by Paul Selman, P.E., on July 19, 2011.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *Calculation titled "146 MPH Wind Load Calculation", dated July 19, 2011, 1 sheet, signed and sealed by Paul J. Selman, P.E.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Building and Neighborhood Compliance Department.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**2. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *Drawing No. RC10982.idw, titled "Roof curb by Thybar Corporation", sheets 1 through 5 of 5, prepared by Paul Selman, P.E., dated June 06, 2011, last revision #3 dated May 15, 2013, signed and sealed by Paul Selman, P.E.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**


1. *Calculation titled "Wind Load Calculation", dated May 16, 2013, 1 sheet, signed and sealed by Paul J. Selman, P.E.*

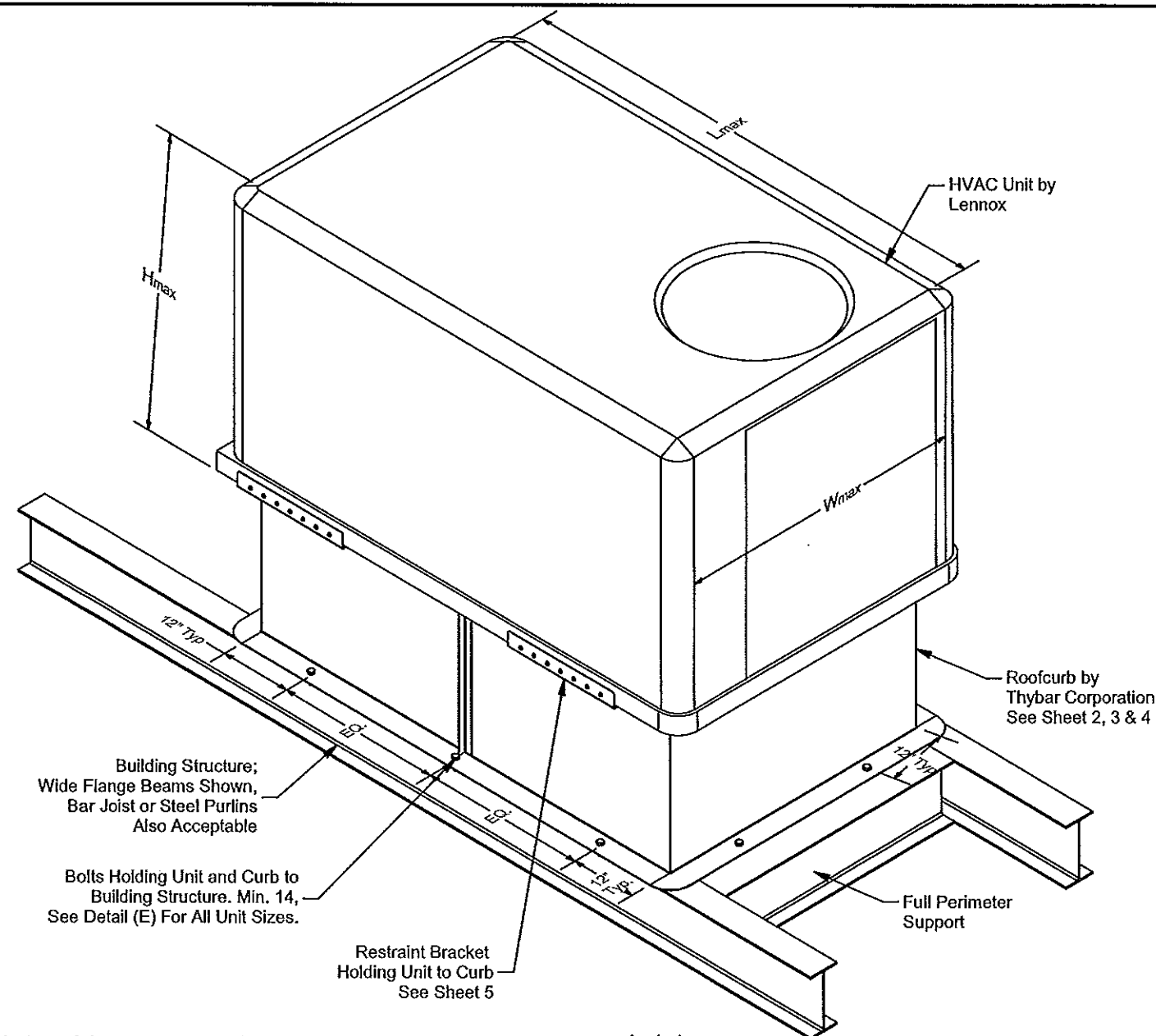
**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

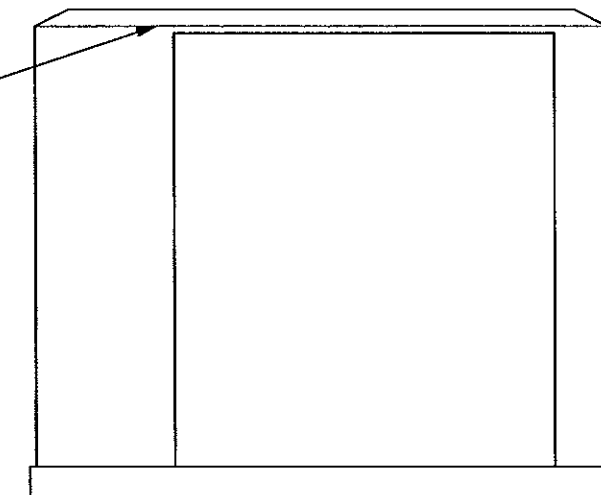
1. *None.*

  
\_\_\_\_\_  
Helmy A. Makar, P.E., M.S.  
Product Control Unit Supervisor  
NOA No. 12-0828.04  
Expiration Date: 09/22/2016  
Approval Date: 06/06/2013



Unit Dimensions		
Lmax	Wmax	Hmax
133"	91"	55"

HVAC Unit by  
Lennox



Restraint Bracket  
Holding Unit to Curb  
See Sheet 5  
Quantity of restraint brackets  
to be determined by  
project specific calculations.

TEK Screws  
Holding Curb to Bracket

TEK Screws  
Holding Unit to Bracket

Roofcurb by  
Thybar Corporation  
See Sheet 2, 3 & 4

Sealing of roofing material to roof curb nailer  
is not part of this application.  
Roofing material should be addressed by approved  
NOA for each project.

Bolts Holding Unit And Curb to Building Structure.

Nuts & Lock Washers  
Holding Unit And Curb  
to Building Structure

Building Structure;  
Wide Flange Beams Shown,  
Bar Joist or Steel Purlins  
Also Acceptable

Exploded End View

This Notice of Acceptance application is limited to the attachment of the HVAC unit to the roof curb, the roof curb itself and the attachment of the roof curb to the roof structure.

Therefore, the restraint system shown in these drawings will be acceptable for all Lennox units with the following model numbers:  
**SGA/SCA 036-240H, LCH/LGH 036-240, KCA/KGA/KHA 024-240.**

#### General Notes:

- These drawings provide a method of attachment so that a Lennox manufactured HVAC unit will be able to resist the force generated by a wind when the unit is installed on a Thybar Corporation manufactured roofcurb as required by the latest version of the Florida Building Code (FBC).
- The following analysis is being submitted to the Miami-Dade County Product Control Section for review and consideration in assigning a Notice of Acceptance (NOA) for Lennox units installed on Thybar Corporation roofcurbs and restraint brackets.
- The design pressures as determined from Section 1620 of FBC, 2010 Edition and ASCE 7-10 must be multiplied by 0.6

#### Analysis:

1) The design wind load for a rooftop-mounted HVAC unit was determined following the requirements of FBC2010 Section 1609.1.1 and Section 29.5 of The American Society of Civil Engineers Standard 7 (ASCE7-10).

2) Static analysis was used to ensure that all components between the rooftop-mounted HVAC unit and the building structure are of sufficient strength.

a) The load path from the rooftop equipment to the building structure is of sufficient strength to keep the equipment in place while resisting the tension, shear, moment and uplift forces generated by the wind force acting on the rooftop equipment.

b) The rooftop unit restraints, the roofcurb wall and the curb attachments to the building structure were all designed and manufactured with the ability to safely transfer the wind-generated force into the building structure.

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 12-0828.04  
Expiration Date 09/27/2016  
By: *[Signature]*  
Miami-Dade Product Control

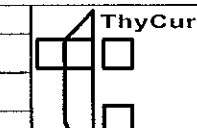
*[Signature]*  
Paul Selman, Florida P.E. 65313  
913 S. Kay Avenue  
Addison IL 60101  
05/16/13

Max lateral pressure 161.1 (psf), Max uplift pressure 78 (psf)

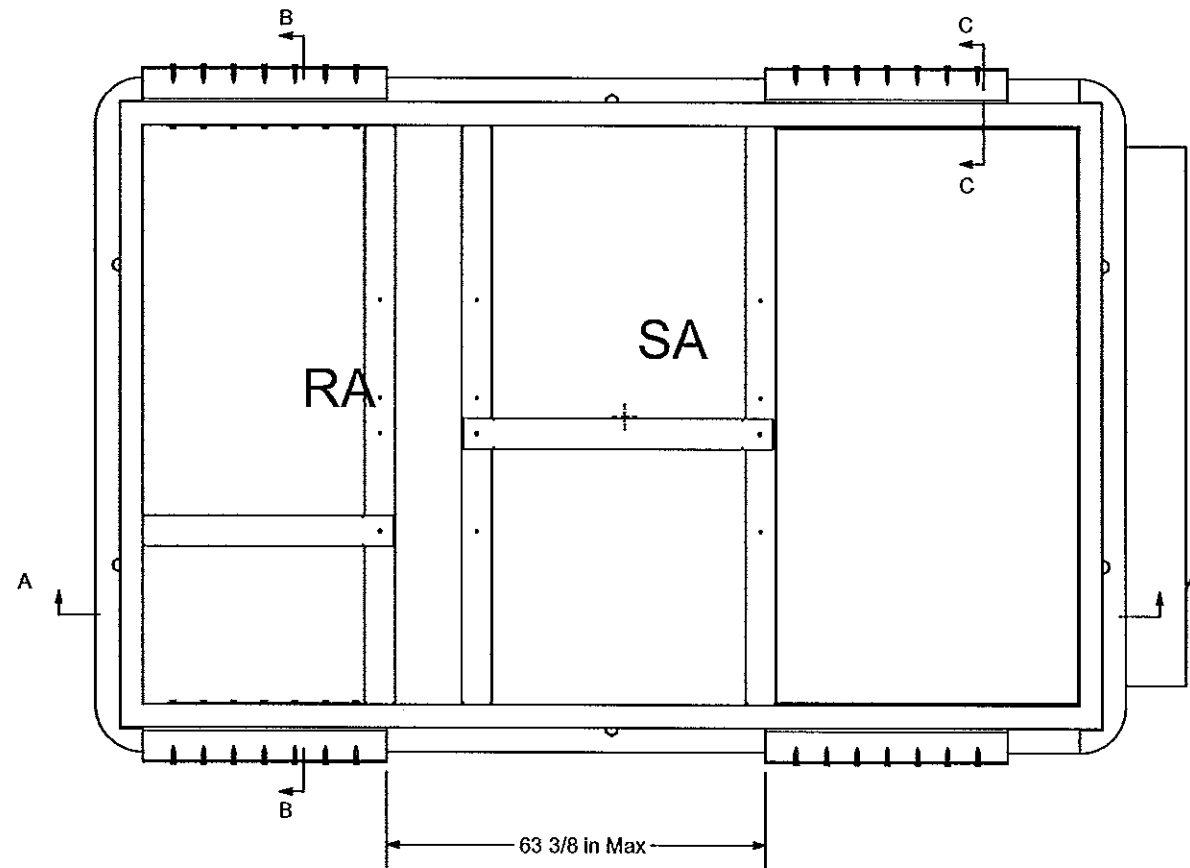
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	Revised per FBC2010 Requirements	12/10/2012	TAmbrosini
2	Per H. Makar Comments	2/11/2013	TAmbrosini
3	Per H. Makar Comments	5/15/2013	TAmbrosini
Thybar Corporation			
Qty:	Job # :	Tag:	
Dwg. RC10982.idw		By: TAmbrosini	Date: 6/6/2011
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ThyCur

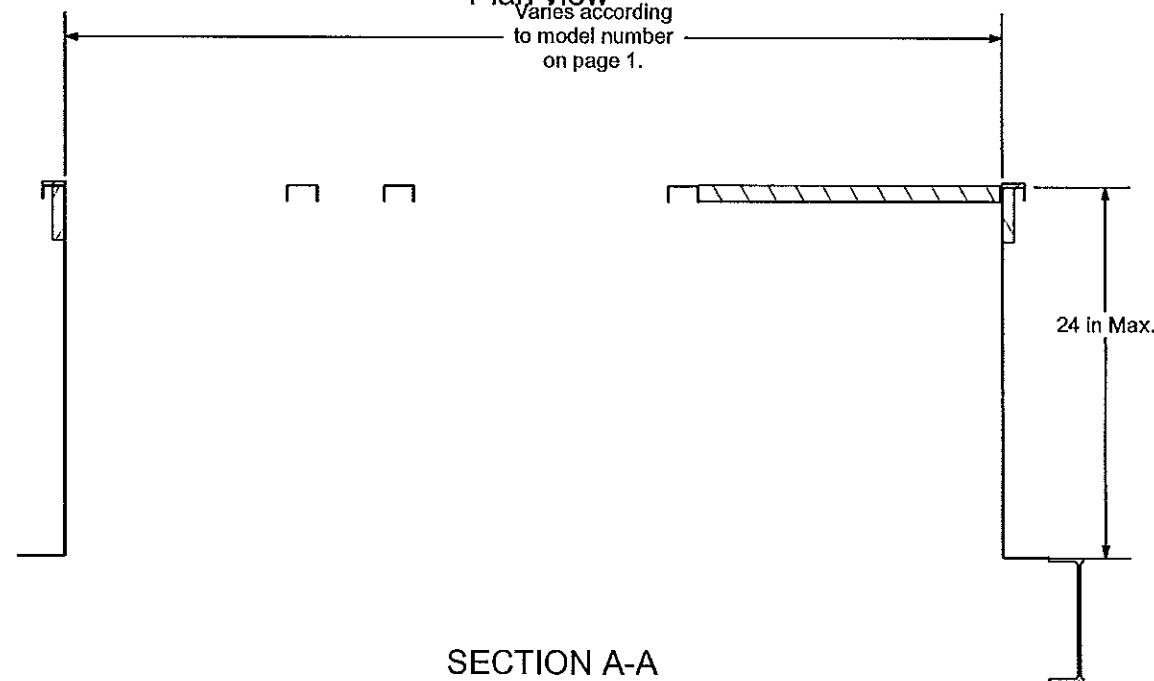
Sheet 1 of 5



Sheet 1 of 5

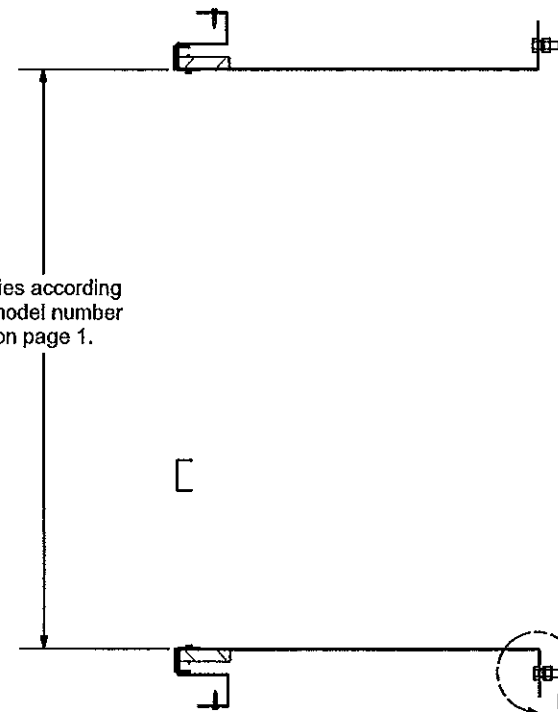


Plan view  
Varies according  
to model number  
on page 1.

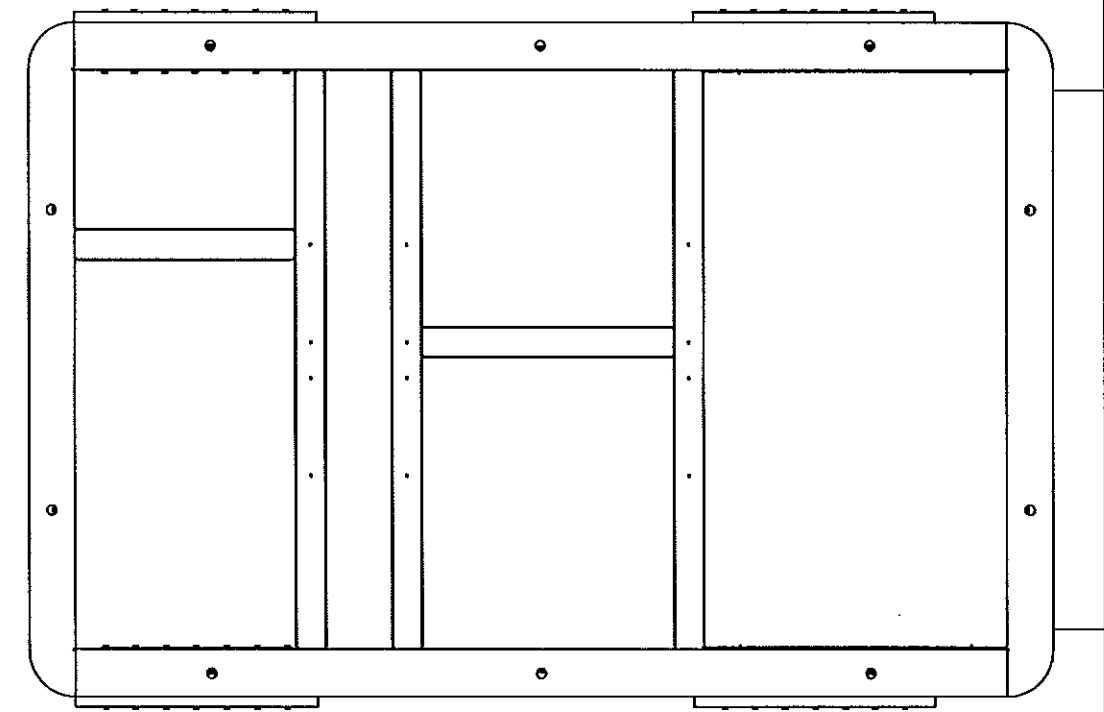


SECTION A-A

Varies according  
to model number  
on page 1.



SECTION B-B



Bottom View

Restraint bracket quantity to be  
determined by project  
specific calculations.

(7) #10 TEK Screws  
Per Restraint Bracket.  
2" O.C. Spacing  
Holding Restraint Bracket  
to Roof Curb

HAVC Unit  
Baseraill

(7) #10 TEK Screws  
Per Restraint Bracket.  
2" O.C. Spacing  
Holding HVAC Unit  
to Restraint Bracket

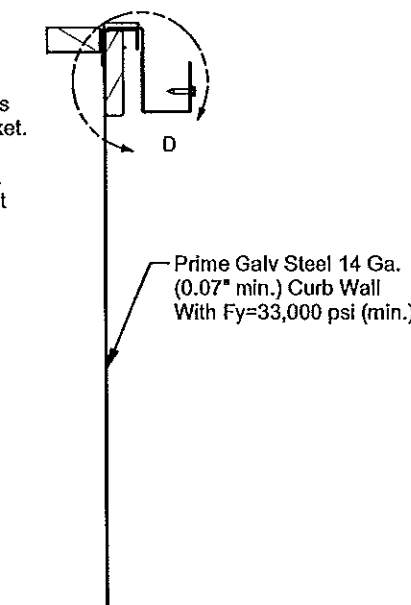
DETAIL D

Min (14) 1/2"Ø A307 throughbolts per curb for all  
unit sizes, min (5) on each curb long side and  
min (2) on each curb short side, holding roof curb  
to building structure.

t = 0.07" (min.)

Structural steel (Typ)  
Provided By Others

DETAIL E




SECTION C-C

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Expiration Date 09/22/2016  
By *Paul Selman*  
Miami Data Product Control

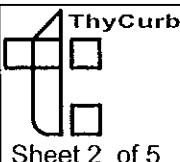
*Paul Selman*  
Paul Selman Florida P.E. 65313  
913 S. Kay Avenue  
Addison IL 60101  
05/16/13

Thybar Corporation			
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ThyCurb

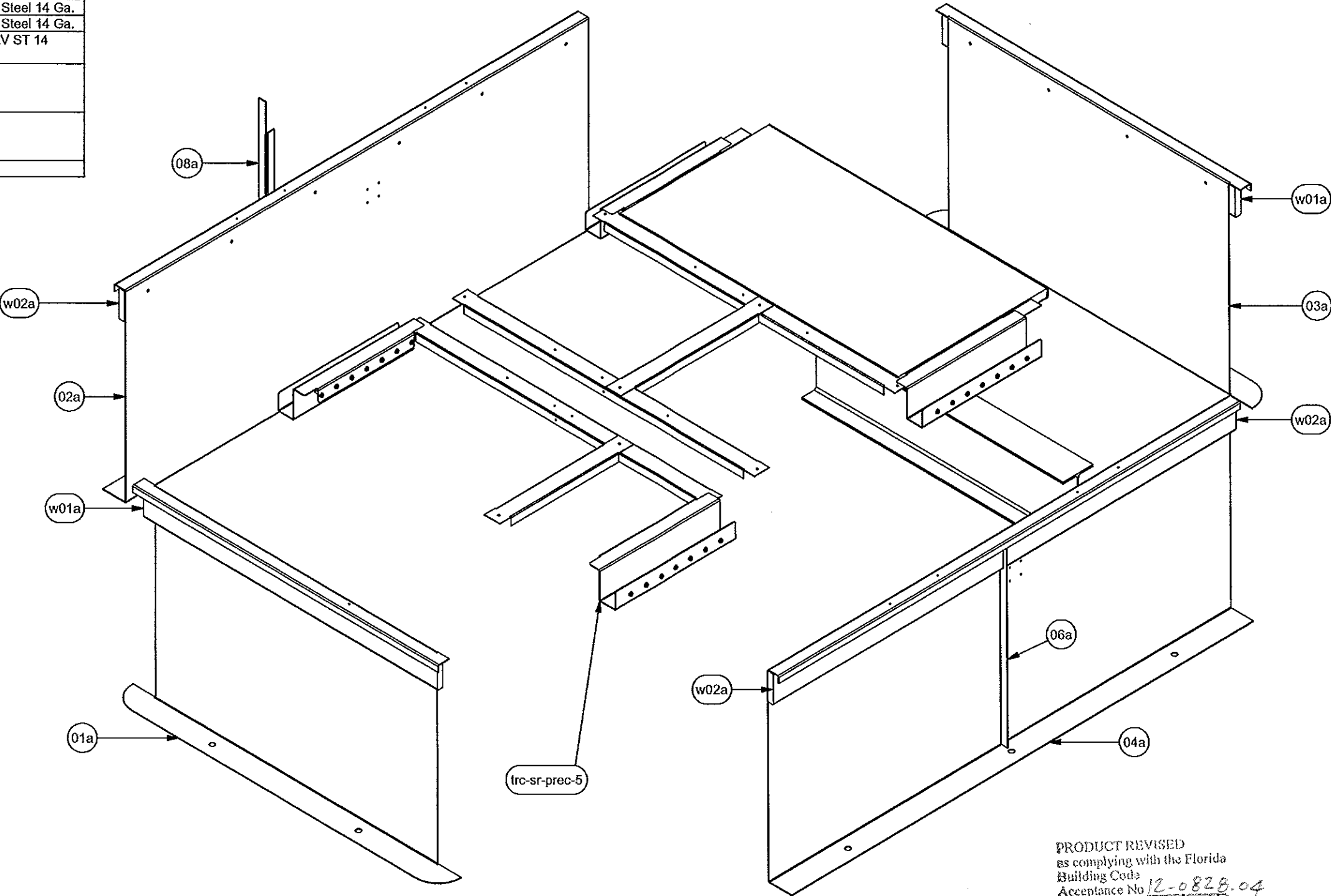
Sheet 2 of 5



Sheet 2 of 5

Send 25 ft. of 1/4 x 1 1/2 Gasketing/Curb


Part	Description	Material
w01a	end nailer	1X4 Wood Nailer
w02a	side nailer	1X4 Wood Nailer
01a	curb wall 1	Prime Galv Steel 14 Ga.
02a	curb wall 2	Prime Galv Steel 14 Ga.
03a	curb wall 3	Prime Galv Steel 14 Ga.
04a	curb wall 4	Prime Galv Steel 14 Ga.
06a	angle stiffener 2	Prime Galv Steel 14 Ga.
08a	angle stiffener 4	Prime Galv Steel 14 Ga.
trc-sr-pre c-5	Restraint Bracket	PRIMEGALV ST 14
10-16x1 self drilling	Hex washer Head Zinc 10-16x1 self drilling	Screw
TR5DS0 0512-D0 1	Recess Pan	INSUL D 1



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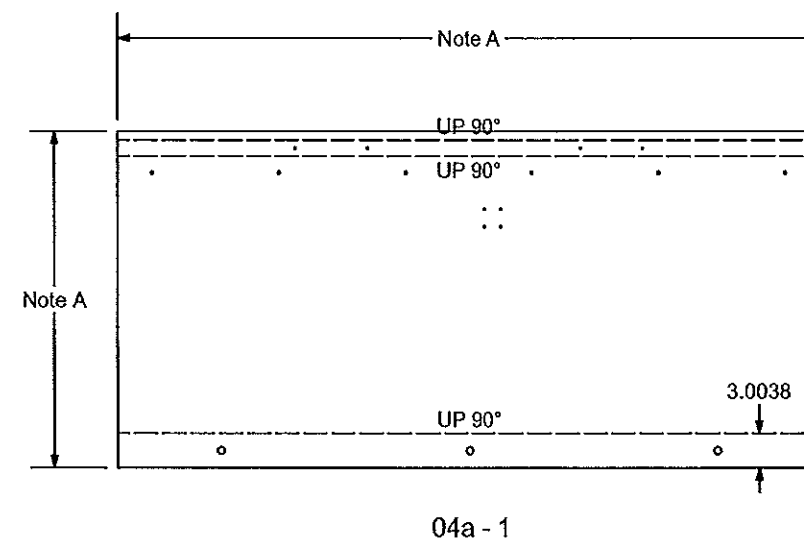
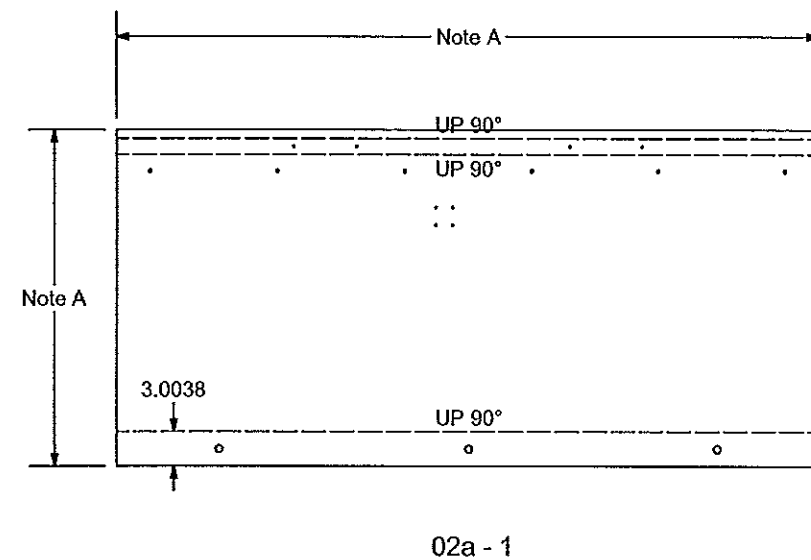
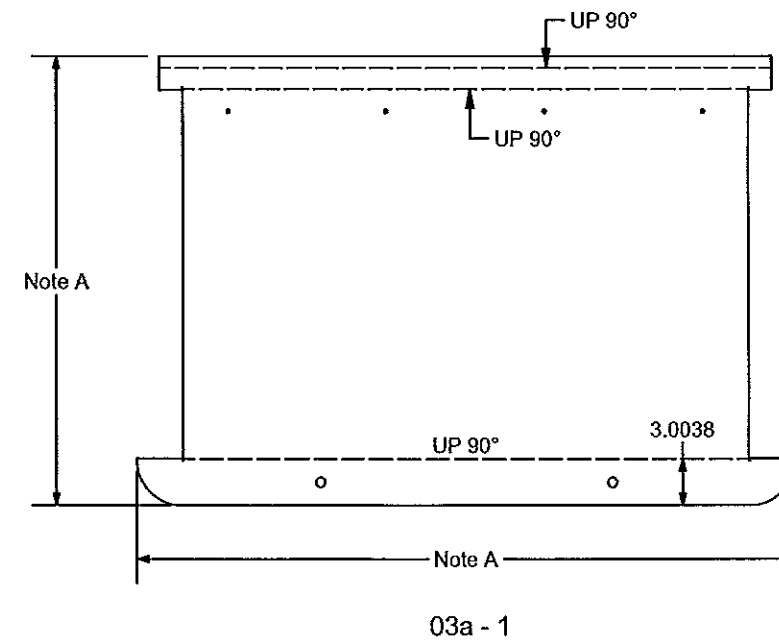
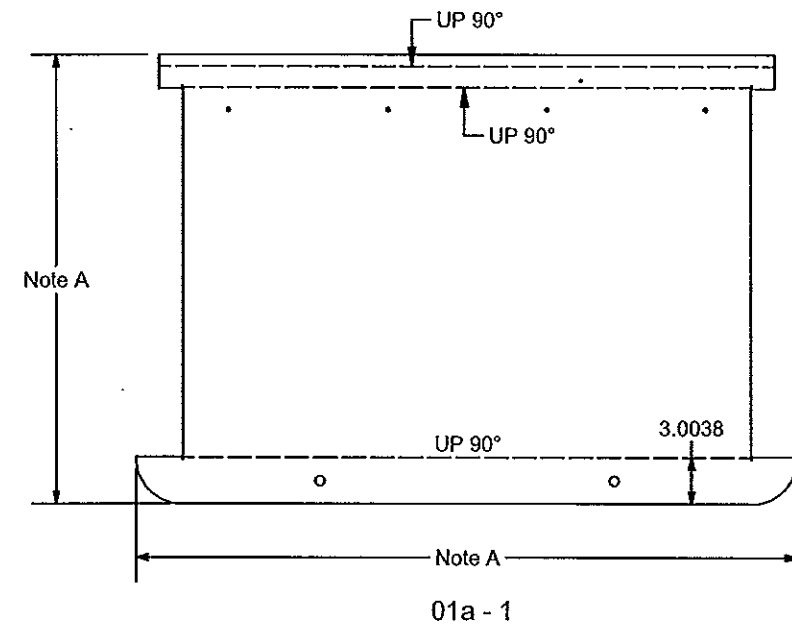
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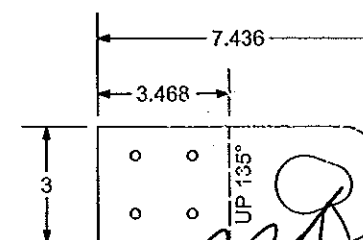
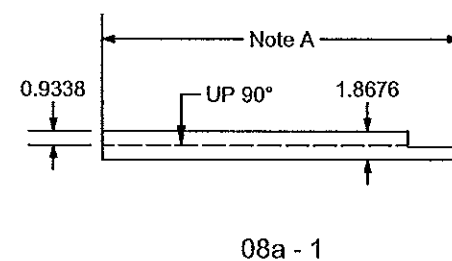
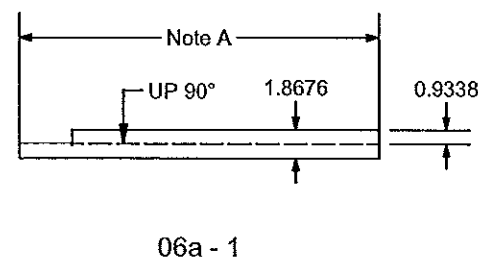


ThyCurb

Sheet 3 of 5




Note A  
Varies according to  
model number on page 1.

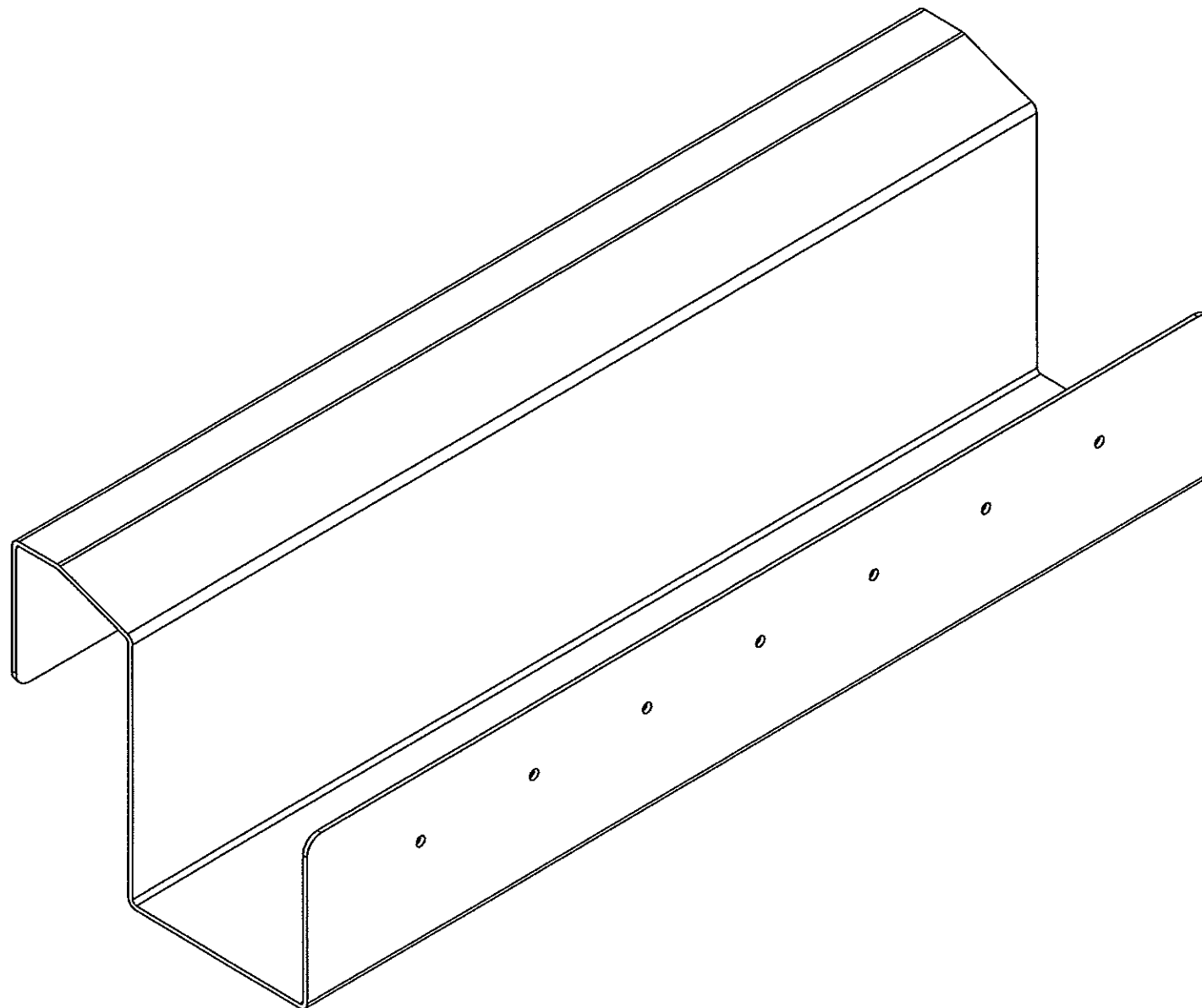


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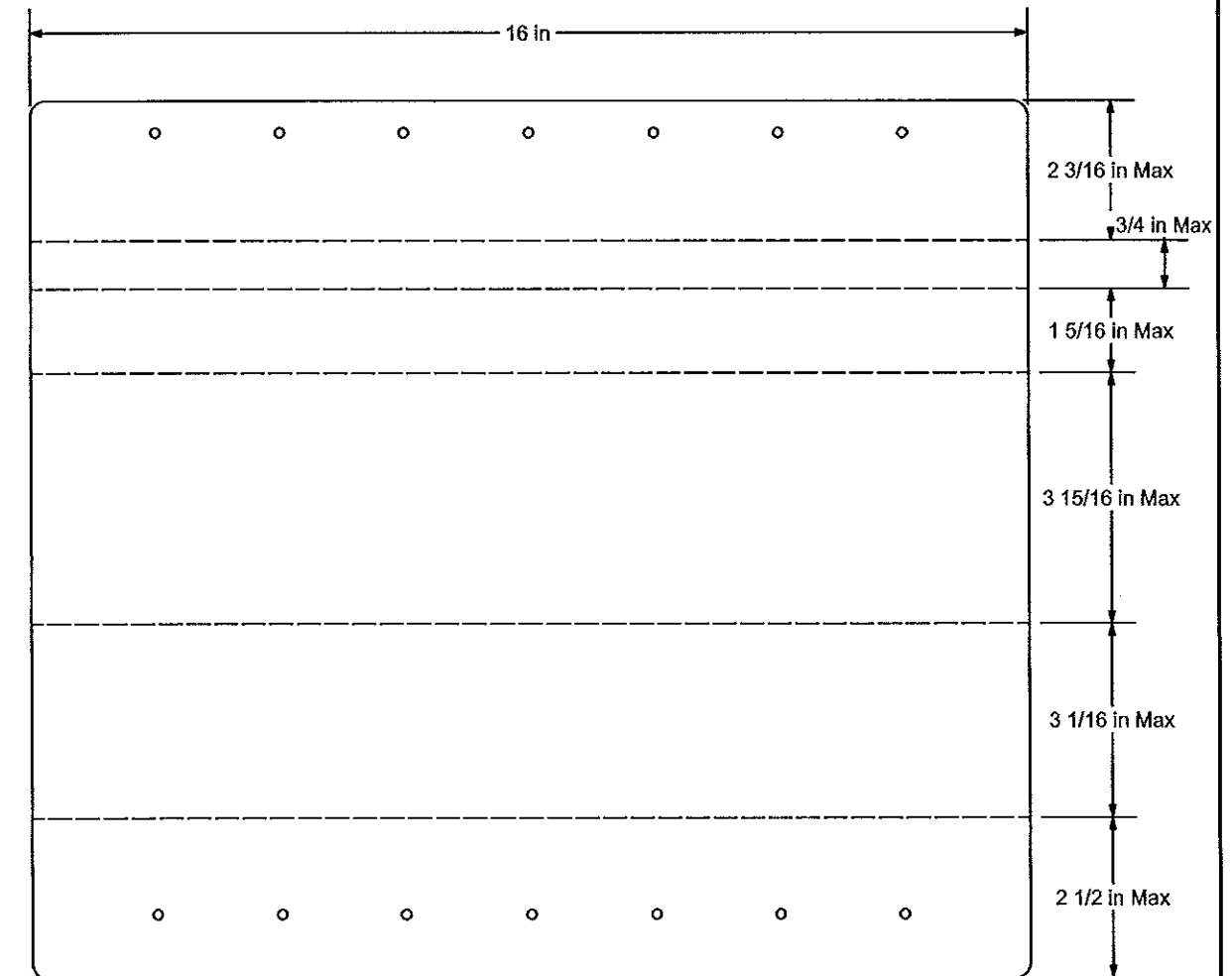
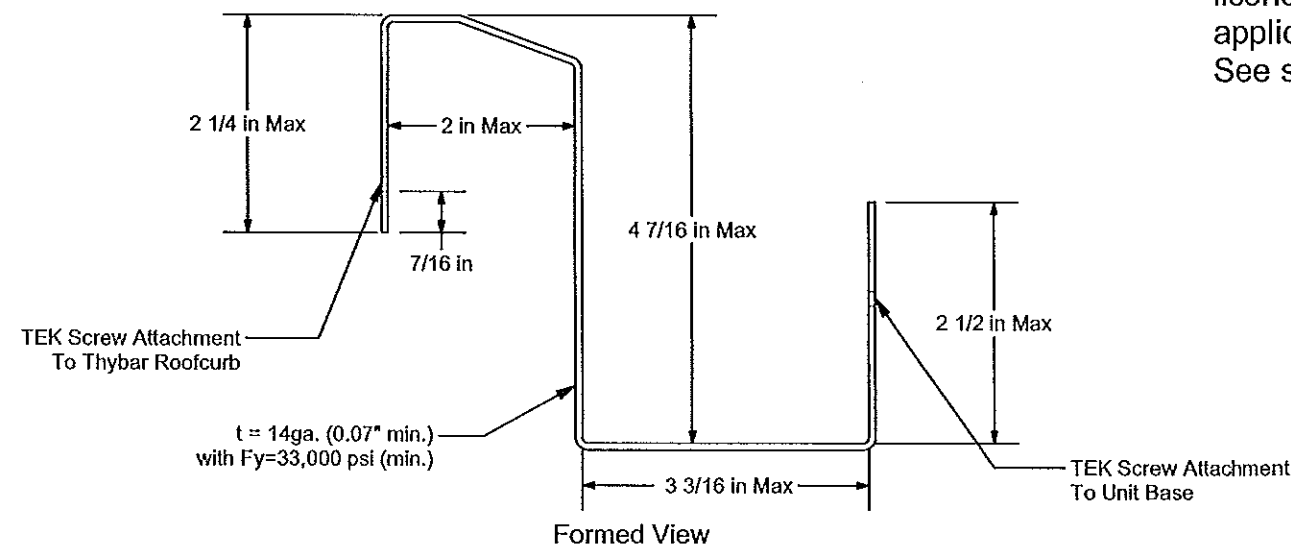
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Thybar Corporation				 ThyCurb
Qty:	Job # :	Tag:		
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Sheet 4 of 5



Isometric View



Flat Pattern

#### Restraint bracket capacity

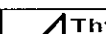
Bracket capacity is the minimum of bracket shear and tensile capacities with a factor of safety = 2.0.  
 5,270=minimum of 8,445 and 5,270  
 5,270 / 2 Factor of Safety = 2,635 lb

#### Restraint bracket quantity

Restraint bracket quantity is determined by project specific calculations, performed by a Florida licenced PE or Florida registered Architect, that consider the unique combination of unit size and applicable lateral and uplift pressures for each specific job.  
 See sheet #1 for maximum unit size and maximum uplift and lateral pressures.

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 By *[Signature]*  
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*[Signature]*  
 Paul Selman Florida P.E. 65313  
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 Addison IL 60101 05/16/13

Thybar Corporation				 ThyCurb
Qty:	Job # :	Tag:		
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Sheet 5 of 5				

